brought forward in the picture." We venture to say that nine readers out of ten not having the original before them, would suppose that Prof. Frey intended the shadows in all drawings to be placed on the *right-hand* side; whereas he simply directs that the shadows should be laid in carefully in their proper place so as to render faithfully the elevations and depressions of the image (picture). Again, at p. 251 we find mention of a "Pravaz syringe," and think few readers would recognize in it the equivalent of what is familiar to every medical reader as a syringe for subcutaneous injection; moreover, Dr. Cutter insists throughout the book on calling magnifying glasses and simple microscopes "loups."

Some of the additions made by the translator will be most acceptable to the American reader; *e.g.*, pp. 81-86, "A History of the Microscope as an American Instrument;" pp. 112-117, a description of Dr. Edward Curtis's section cutter and his method of imbedding and cutting tissue, which is one of the most satisfactory with which we are acquainted.

In conclusion, we find at the end of the book a price list of many of the most prominent microscope makers, but are rather surprised that in the list of English makers, while Pillischer and Baker are mentioned, not a word is said in regard to either Powell and Lealand, or R. & J. Beck. W. F. N.

ART. XXXI.—*A Manual of Histology.* By Prof. S. STRICKER, of Vienna, Austria, in co-operation with TH. MEYNERT, F. VON RECKLINGHAUSEN, MAX SCHULTZE, W. WALDEYER, and others. Translated by HENRY POWER, of London; JAMES J. PUTNAM, and J. ORNE GREEN, of Boston; HENRY C. ENO, THOS. E. SATTERTHWAITE, EDW. C. SEGUIN, LUCIUS D. BULKLEY, EDW. L. KEYES, and FRANCIS E. DELAFIELD, of New York. American Translation edited by ALBERT H. BUCK, Ass't Aural Surgeon to the New York Eye and Ear Infirmary. With 431 Illustrations. 8vo. pp. 1106. New York: Wm. Wood & Co., 1872.

THE enterprising New York publishers of this valuable work have issued in a single volume the entire treatise edited by Stricker. This edition contains, translated by Americans, not only the special senses, which are the subjects of Vol. III. of the New Sydenham Society's edition, but also the matter of Vol. II. of Mr. Power's translation.

Having already noticed the contents of Vols. I. and II. of the New Sydenham Society's edition, we will confine ourselves to the remaining subjects.

Chap. XXXIV., on the *Organ of Taste,* is by TH. W. ENGELMANN, of Utrecht, and is translated by A. H. BUCK. Most interesting and important is the description of the *taste-buds* (Geschmacksknospen), *taste-bulbs* (Geschmackszwiebeln), or *taste-beakers* (*Schmeckbecher*), as they are variously called. These are described as occupying cavities in the epithelium of the mucous membrane of the tongue, fitting them perfectly at every point. They are found more particularly in most sensitive (as to taste) parts, as the upper surface of the root (especially the circumvallate papillæ), the edges and tips of the tongue, and probably the anterior portion of the soft palate.

Chap. XXXV., *The Organ of Smell,* by Prof. BABUCHIN, is translated by FRANCIS E. DELAFIELD. We were much confused and delayed in our understanding of the first part of this chapter by an evident transposition of the text descriptive of fig. 304 to fig. 303, and of that of 303 to 304. If this transposition occurred in the original, which we have not now at hand, it should not have escaped the observation of the translator, while if the error is peculiar to the translation it is even less excusable.

The organ of smell, as may be said of all the organs of special sense, is composed of three component parts—(a) the apparatus which appreciates odours; (b) the conducting apparatus, and (c) the central organ to which the sensations of smell are transmitted by the conducting apparatus. So, also, the first part, the apparatus which appreciates odours, as that of which the minute structure is most complex and most recently appreciated, is the most interesting. This, as well as a part of the second, is imbedded in the mucous membrane, known as the "regio olfactoria," which, in the higher animals, covers the upper and deeper portions of the nasal cavity.

Max Schultze is accredited with having laid the foundation of a correct knowledge of the histology of this region. This is covered in the lower animals (frog) with a thick layer of the so-called "Bowman's glands"—follicular glands, having constricted orifices and lined by round or polygonal cells. These, according to Kölliker, are replaced in man by the ordinary mucus-glands, but, according to Schultze, those in man represent transition forms suggesting Meibomian glands. Schultze has also found racemose mucus-glands in the human olfactory region. Imbedded in the connective tissue between these glands are bloodvessels and branches of the olfactory nerves.

Thus far, the structure of this region is well determined, but beyond this, there would appear to be as much uncertainty in the actual knowledge as there is obscurity in the language used by the author to describe it.

Chap. XXXVI., *The Organ of Vision*, by MAX SCHULTZE and others, is a masterpiece. It is translated by HENRY C. ENO. Schultze makes ten layers of the retina, which, passing from within outwards, he names as follows: 1. Membrana limitans interna; 2. Layer of optic nerve fibres; 3. Layer of ganglion cells; 4. Internal molecular layer; 5. Layer of internal granules; 6. External molecular (intergranular) layer; 7. Layer of external granules, including the external fibrous layer which exists in certain portions of the retina; 8. Membrana limitans externa; 9. Layer of rods and cones; 10. Pigment layer.

The *Bloodvessels of the Eye* are treated by TH. LEBER, the *Lymphatics* by G. SCHWALBE. Consistently with recent advances in our knowledge of the lymphatic system, the eye has been found to furnish abundant channels and spaces for the conveyance of the lymph derived from its various tissues, some of which are highly vascular. Prof. A. IWANOFF treats of the *vitreous body*, the understanding of which is seriously interfered with by the absence of all illustrations, a deficiency which is by no means confined to this portion of the volume. According to the author there is no distinct capsule for the vitreous, no "membrana hyaloidea," so-called, though in front the tissue of the vitreous is condensed to form a limiting layer, the posterior wall of the canal of Petit.

The structure of the *Lens* is successfully displayed by Prof. BABUCHIN, whose paper is well illustrated. So also is that of ALEXANDER ROLLETT, on the *Cornea*, which furnishes a complete account of this important tissue. The histology of the cornea should be familiar to every medical man whatever the subject of his special interest, since it has been made the seat of almost all important observations on the nature of inflammation.

The following layers of this structure are made by the author:—

1. The external epithelium of the cornea, a flat laminated epithelium.
2. The true corneal tissue.
3. The membrane of Descemet, a sharply defined homogeneous appearing membrane.

4. The endothelium of the membrane of Descemet, a single layer of flattened cells.

The *Conjunctiva and Sclerotica* are by STIEDA, STRICKER, and KLEIN. The manuscript of the first named is lengthened by Stricker, and the subject is admirably illustrated with drawings by Klein.

The *Lachrymal gland* is treated by FRANZ BOLL. Agreeing in all essential points of structure with the salivary glands, it requires no extended note from us. J. T.

Chap. XXXVII. is on *The Organ of Hearing.*

I. *The external and middle ear exclusive of the Eustachian Tube*, by J. KESSEL. The author in a few introductory remarks divides, according to the almost universal opinion held at present, the entire organ of hearing of the higher vertebrates into a sound-conducting and a sound-perceiving apparatus, classing under the percipient elements the entire inner ear, *i. e.* in the vestibule, the semicircular canals, and the cochlea. Whether such a division can be much longer maintained, we will not stop to inquire.

Nothing new is added concerning the auricle and external meatus. The distribution of the vessels in the fibro-cartilages should have received more careful study.

The theme of the membrana tympani, however, has been thoroughly elaborated and constitutes the bulk and most valuable part of Kessel's paper.

Most readers will find new to them the description of the *peculiar bodies* resembling a Vater's corpuscle with their concentrically arranged capsules, which exist more or less numerously in the submucous connective tissue of the tympanum and mastoid cells. An axis band runs through the centre of these lemon-shaped bodies, which immediately after its exit spreads out fan-shaped into the adjacent tissues. Kessel was the first to describe these bodies as existing in the normal healthy ear, but their precise physiological function still remains to be determined. Having had the opportunity of verifying the author's preparations, we take pleasure in testifying to the accuracy of his description and delineation of these bodies.

In the description of the ossicles and their muscles, we miss all the more an accurate account of the several articulations and the relations of the muscles to the ossicles, since these points have acquired great interest through recent investigation. A more detailed account of the relations of the mastoid cells in the various stages of development of the petrous bone might have been safely given, since a precise knowledge of them would be of great importance to pathological studies.

II. *The Eustachian Tube.* III. *The Membranous Labyrinth*, by Prof. RUEDINGER. His earlier publications and labours in this direction have eminently qualified the author for the performance of the task assigned to him. It is rendered one of the most attractive chapters of the entire volume by the perspicuity of the language employed and by the exceptional liberality with which Stricker has allowed it to be illustrated.

Throughout this chapter the reader will find many new and valuable contributions to the comparative microscopic anatomy.

IV. *Auditory Nerve and Cochlea*, by W. WALDEYER. Any reader desirous of studying the complicated structure of the organ of Corti with the ultimate terminations of the auditory nerve, will nowhere find a more reliable and complete treatise than this of Waldeyer.

The several papers upon the organ of hearing have been conjointly translated by J. ORNE GREEN, T. E. SATTERTHWAITE, and ALBERT H. BUCK. It is apparent, from the excellent manner in which they have performed their work, that they have entered into it *con amore.* R. M. B.

---

Art. XXXII.—*A Treatise on the Principles and Practice of Medicine; designed for the use of Practitioners and Students of Medicine.* By Austin Flint, M.D., Prof. of the Principles and Practice of Med., and of Clin. Med. in the Bellevue Hosp. Med. Coll. Fourth edition, carefully revised. 8vo. pp. 1070. Philadelphia: Henry C. Lea, 1873.

It is unnecessary for us to do much more in reference to the present edition of this work than to call attention to its issue, and to state that some portions of it have been rewritten, and numerous additions made throughout the volume, amounting in all to about seventy pages. These alterations are pretty well distributed, but the most important of them are included in the chapters relating to general pathology, to nervous and renal diseases, and to fevers. In the first of these are discussed the important subjects of tubercle, embolism, and thrombosis, and septicæmia. In the second we find an account of aphasia, pachymeningitis, spinal meningitis, cerebritis, and myelitis; in the third, of hydronephrosis and abscess of the kidney; and in the last much new matter appears under the heads of relapsing fever, vaccine, and rheumatism.

In all these additions, as in the original text, the author has known how to combine fulness of detail with conciseness of style, to distinguish between fact and probability, and to avoid that positive and dogmatic tone which is most strongly developed in the writings of those who have least claim to employ it. The higher one rises towards absolute truth, the more remote does it appear; and the less is one disposed to criticise the ignorance and self-assertion of those whose life is on a lower level. Our author has so much of his own to communicate that he concerns himself but little with a criticism of views from which he dissents or of opinions that he condemns. The reader who seeks for a plain, clear, succinct, yet full account of diseases and their treatment, cannot do better than study this volume, which probably contains a greater amount of truth, and is disfigured with fewer errors, than any treatise of its kind.

As in former editions, so in this, the articles are of unequal merit; and yet we think that the inequality is less conspicuous than before, a fact, if it be one, which speaks for the author's more enlarged and more critical and personal study of the subjects of which he has treated. If we were to characterize his genius we should call it clinical in opposition to critical; and while feeling implicit confidence in his own observations and his conclusions from them, we cannot hold his judgment of the facts and doctrines of others in equal esteem. To expect a medical author who is also immersed in the details of an onerous practice to be equally distinguished in both fields is, perhaps, to look for the impossible.

One article, that on relapsing fever, may be taken to illustrate this estimate, for although the author had some opportunity of studying the disease, we cannot regard his account of it as satisfactory. It does not indicate an acquaintance with the literature of the subject, which would have prevented several errors of statement, such as, that "relapsing and typhus fever are apt to prevail together;" that "there are no distinctive morbid appearances found in the rare cases that prove fatal;" that "it is not a highly contagious disease;" that "destitution, deprivations, and especially deficient alimentation,